

# ***The Superiority Complex***

---

***Integrity - Service - Excellence***



**U.S. AIR FORCE**

---

## **Space Control: *Enablers and Issues***

**Lt Col John Hyten**  
**Chief, Space Control Division**  
**HQ USAF/XOSC**



# Overview



**U.S. AIR FORCE**

---

- **The Need for Space Control**
- **Definitions**
  - **DoD**
  - **USAF**
- **Enablers and Issues**
  - **Policy**
  - **Funding**
  - **CONOPS/Architectures**
  - **Organization**
- **Summary**

---

***Integrity - Service - Excellence***



**U.S. AIR FORCE**

# ***The Need for Space Control***



**“The U.S. is more dependent on space than any other nation”**

**“As we become increasingly dependent on space... space will necessarily become an area we have to defend. Adversaries are likely to develop ground-based lasers, space jamming and ‘killer’ micro-satellites to attack U.S. space assets”**

**“We are most dependent on space, and we’re vulnerable... and we have a mission...called Space Control... to deal with that”**

---

***Integrity - Service - Excellence***



U.S. AIR FORCE

# ***Space Control (DOD Policy)***



- **Combat and combat support operations to ensure freedom of action in space for the United States and its allies and, when directed, deny an adversary freedom of action in space. The space control mission area includes:**
  - **Surveillance** *(historically the area of most activity)*
  - **Protection**
  - **Prevention** *(most critical but often overlooked)*
  - **Negation** *(the primary focus of the “debate”)*
  - **Battle management, command, control communications, and intelligence (BMC3I)**

**DOD Space Policy, 9 Jul 1999**



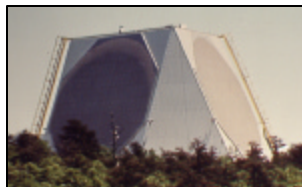
U.S. AIR FORCE

# Space Control (DOD Policy)



## Surveillance

- Provide Situational Awareness of Space Objects & Activities
- Worldwide Network
  - Ground Radar
  - Optical Trackers
  - Space Sensors



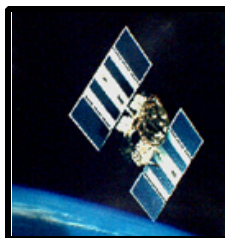
## Protection

- Detect, Report, Locate, Classify, Identify and Assess Attacks
- Enhance Survivability
  - Maneuver
  - Hardening
  - Redundancy



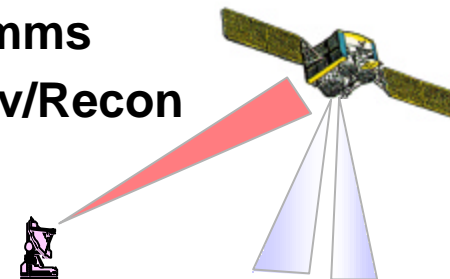
## Prevention

- Prevent Adversaries From Exploiting US or Allies Space Services
  - Navigation Warfare (NAVWAR)
  - Shutter Control



## Negation

- Negate the Ability for Adversaries to Exploit Their Space Forces
  - Counter-Comms
  - Counter-Surv/Recon



*Integrity - Service - Excellence*



# ***Space Control (AF Doctrine)***

---



## ***Counterspace***

**.... Operations conducted to attain and maintain a desired degree of space superiority by allowing friendly forces to exploit space capabilities while negating an adversary's ability to do the same**

**Air Force Doctrine Document 2-2,  
Space Operations, 27 Nov 01**



U.S. AIR FORCE

# ***Space Control (AF Doctrine)***



**Defensive Counterspace  
(DCS)**

**Active and  
Passive Defense**

**Offensive Counterspace  
(OCS)**

**To preclude an adversary...  
Lethal or non-lethal**

**Space Situational Awareness (SSA)**

**Surveillance, Intel, Reconnaissance**

***Integrity - Service - Excellence***



U.S. AIR FORCE

# ***Enablers and Issues***

## ***-- Policy --***



- **Enablers**

- Current policy allows for all aspects of space control
- “Consistent with treaty obligations, the US will develop, operate, and maintain space control capabilities to ensure freedom of action in space and, **if directed**, deny such freedom of action to adversaries” (National Space Policy, 1996)

- **Issues**

- No significant issues re: SSA and DCS
- OCS, however, remains the focus of much debate



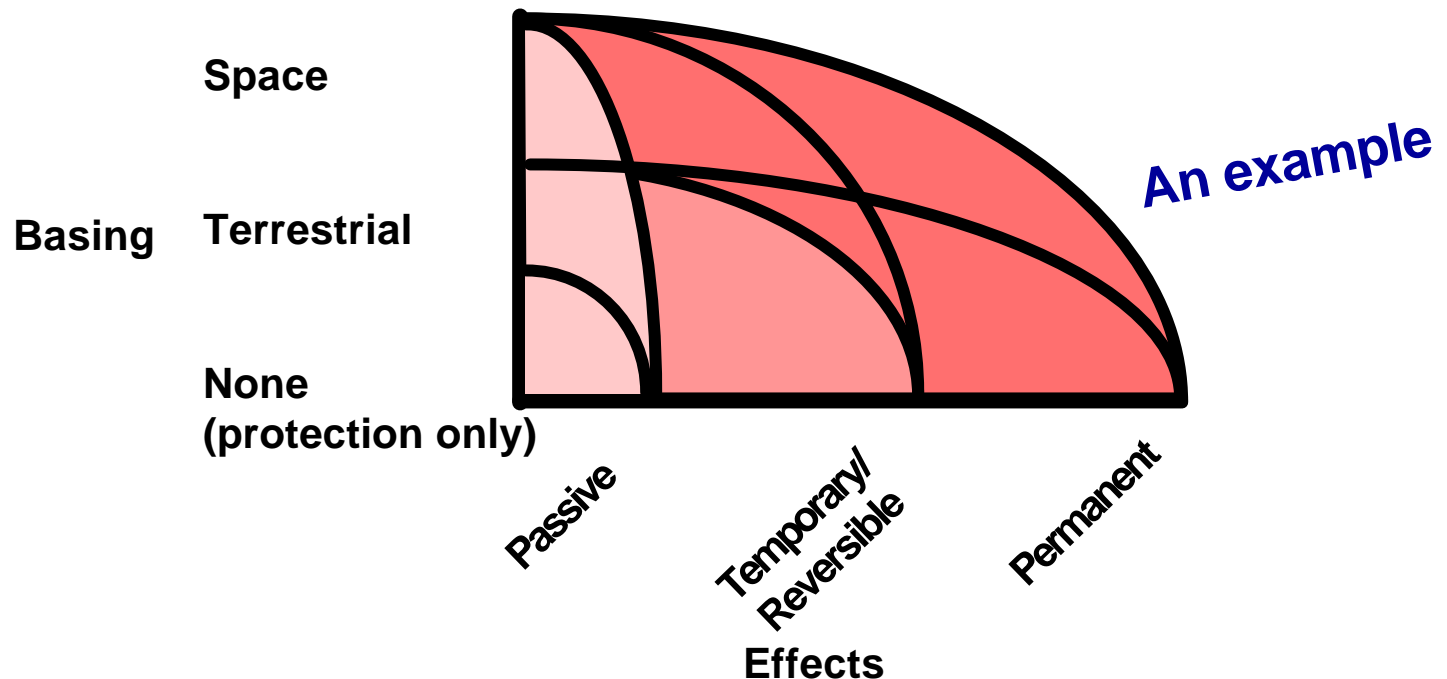


U.S. AIR FORCE



## Policy (cont.)

- OCS often lost in a “weapons in space” debate
- Thus, AF Doctrine leads with: “**should policy allow...**” and National Policy states “**if directed...**”
- OCS is complicated and needs a broader policy debate



*Integrity - Service - Excellence*



**U.S. AIR FORCE**

# ***Enablers and Issues***

## ***-- Funding --***



### **■ Enablers**

- Increased Space Control funding in FY02
- Substantial program in FY03 President's Budget
  - \$88 million in investment accounts
    - Ground based SSA, moving to space
    - DCS initiative
    - Counter communications (OCS)
    - Counter surveillance/reconnaissance (OCS)
  - \$185 million overall space control budget request

### **■ Issues**

- No integrated architecture
- OCS policy debate
- DCS still requires additional emphasis
  - Best solutions may be non-materiel



**U.S. AIR FORCE**

# ***Enablers and Issues***

## ***-- CONOPS and Architectures --***

---



- **Enablers**
    - **Air Force Space Command is developing a concept of operations (CONOPS) for Space Control**
      - **Unclassified**
      - **Integrates SSA, DCS, and OCS**
      - **Supports broader AF and joint missions**
      - **Will drive AF space control investments**
  - **Issues**
    - **Need a Space Control Operational Architecture**
    - **Translate the CONOPS into detailed tasks/activities**
      - **Allows efficient, effective systems development**
- 

***Integrity - Service - Excellence***



U.S. AIR FORCE

# ***Enablers and Issues***

## ***-- Organization --***



### **■ Enablers**

- Established Space Surveillance Network (SSN)
- SSA Integration Office (New)
- 527th Space Aggressor Squadron (New)
  - Red Force to identify potential vulnerabilities
- 76th Space Control Squadron (New)
  - Develop and operate space control technologies
- Space Range (New)

### **■ Issues**

- Evolving the SSN into an SSA Network
  - Incorporating Intelligence/Reconnaissance
- Creating a Single Integrated Space Picture
- Maturing the DCS and OCS missions

---

***Integrity - Service - Excellence***



U.S. AIR FORCE

# Summary



- Despite many issues, the space control mission area is growing and maturing rapidly
- Space Control is a critical piece of our defense strategy
  - One of six transformational goals for the DoD
    - 1 - Protect the U.S. homeland and our bases overseas
    - 2 - Project and sustain power in distant theaters
    - 3 - Deny our enemies sanctuary
    - 4 - Protect our information networks from attack
    - 5 - Use information technology to link up U.S. forces
    - **6 - Maintain unhindered access to space and protect our space capabilities from enemy attack**

---

***Integrity - Service - Excellence***